

ENVIRONMENTAL PROTECTION AGENCY

[FRL]

Control of Emissions from New Highway Vehicles and Engines

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of denial of petition for rulemaking.

SUMMARY: A group of organizations petitioned EPA to regulate emissions of carbon dioxide and other greenhouse gases from motor vehicles under the Clean Air Act. For the reasons provided below, EPA is denying the petition.

EFFECTIVE DATE: [Upon publication.]

ADDRESSES: Information relevant to this action is contained in Docket No. A-2000-04 at the EPA Docket Center, Public Reading Room, Room B102, EPA West Building, 1301 Constitution Avenue, N.W., Washington, D.C. Dockets may be inspected at this location from 8:30 a.m. to 4:30 p.m., Monday through Friday, except on government holidays. You can reach the Air Docket by telephone at (202) 566-1742 and by facsimile at (202) 566-1741. You may be charged a reasonable fee for photocopying docket materials, as provided in 40 CFR Part 2.

FOR FURTHER INFORMATION CONTACT: Chitra Kumar, Office of Air and Radiation, (202) 564-7413.

SUPPLEMENTAL INFORMATION

I. Background

On October 20, 1999, the International Center for Technology Assessment (ICTA) and a number of other organizations¹ petitioned EPA to regulate certain greenhouse gas (GHG)

¹Alliance for Sustainable Communities, Applied Power Technologies, Bio Fuels America, California Solar Energy Industries Association, Clements Environmental Corporation, Environmental Advocates, Environmental and Energy Study Institute, Friends of the Earth, Full Circle Energy Project, Green Party of Rhode Island, Greenpeace USA, Network for Environmental and Economic Responsibility of the United Church of Christ, New Jersey

emissions from new motor vehicles and engines under section 202(a)(1) of the Clean Air Act (CAA). Specifically, petitioners seek EPA regulation of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and hydrofluorocarbon (HFCs) emissions from new motor vehicles and engines. Petitioners claim these emissions are significantly contributing to global climate change.

EPA is authorized to regulate air pollutants from motor vehicles under title II of the CAA. In particular, section 202(a)(1) provides that “the Administrator [of EPA] shall by regulation prescribe . . . in accordance with the provisions of [section 202], standards applicable to the emission of any air pollutant from any class or classes of new motor vehicle . . ., which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.”

II. Summary of the Petition

Petitioners contend the test for regulating motor vehicle emissions under CAA section 202(a)(1) has been met for CO₂, CH₄, N₂O and HFCs. They claim statements made on EPA’s website and in other documents constitute an Agency finding that the four GHGs may reasonably be anticipated to endanger public health or welfare. They also assert that motor vehicle emissions of the GHGs could be significantly reduced by increasing the fuel economy of vehicles, eliminating tailpipe emissions altogether, or using other current and developing technologies. Based on their analysis, they argue that EPA has a mandatory duty under section 202(a)(1) to regulate emissions of GHGs from motor vehicles.

Petitioners present their case for why EPA should, and even must, regulate motor vehicle GHG emissions under section 202(a)(1) in four parts. First, they assert that anthropogenic emissions of CO₂, CH₄, N₂O, and HFCs meet the CAA section 302(g) definition of “air pollutant,” which is “any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters ambient air. Such term includes any precursors to the formation of any air pollutant . . .” Citing international and national reports, petitioners contend that anthropogenic emissions of CO₂, CH₄, N₂O, and HFCs are accelerating global warming, and that motor vehicle emissions of these GHGs, particularly CO₂, significantly contribute to the U.S. GHG inventory. Petitioners argue that the contribution of motor vehicle GHG emissions to global climate change qualify them as “air pollutants” under the CAA.

Petitioners also claim that EPA has already determined CO₂ to be an air pollutant. They cite an April 10, 1998 memorandum from Jonathan Z. Cannon, then General Counsel of EPA, to Carol Browner, then Administrator of EPA, entitled “EPA’s Authority to Regulate Pollutants

Environmental Watch, New Mexico Solar Energy Association, Oregon Environmental Council, Public Citizen, Solar Energy Industries Association, SUN DAY Campaign.

Emitted by Electric Power Generation Sources” (hereinafter “Cannon Memorandum”). The memorandum states that sulfur dioxide, nitrogen oxides, mercury, and CO₂ emitted from electric power generating units fall within the definition of “air pollutant” under CAA section 302(g). According to petitioners, it follows from the memorandum that the other three GHGs meet the CAA definition of “air pollutant,” too.

Second, petitioners argue that GHG emissions contribute to pollution that “may reasonably be anticipated to endanger public health or welfare,” a key criterion for regulation under section 202(a)(1). Petitioners state that the CAA does not require proof of actual harm, but allows the Administrator to make a precautionary decision to regulate an air pollutant if it “may reasonably be anticipated” to endanger public health or welfare. The petitioners point to statements made by the United Nations Intergovernmental Panel on Climate Change (IPCC), EPA and others about the potential effects of global climate change on public health and welfare as establishing that global climate change “may reasonably be anticipated to endanger public health and welfare.” Based on these statements, the petitioners allege numerous threats to public health and welfare.

Third, petitioners argue that it is technically feasible to reduce GHG emissions from new motor vehicles and engines. In particular, they note that CO₂ emissions can be reduced by increasing the fuel economy of passenger cars and light trucks, and that a number of currently available gasoline-powered cars get significantly better fuel economy than the 27.5 mpg corporate average fuel economy (CAFE) standard currently applicable to cars under federal law. They also point to a congressional report identifying other technologies for further improving the fuel economy of gasoline-powered cars that have yet to be fully employed. In addition, petitioners note that several foreign and domestic car manufacturers are already marketing or developing hybrid-electric vehicles that get significantly better fuel mileage than the most fuel-efficient gasoline-powered car. Looking ahead to the next generation of vehicle technology, petitioners describe the potential for electric and hydrogen-celled vehicles to eliminate tailpipe emissions altogether. Petitioners recommend that EPA set a “corporate average fuel-economy based standard” under CAA section 202 that would result in the rapid market introduction of more fuel-efficient and zero-emission vehicles.

Petitioners suggest other potential ways of reducing CO₂ emissions such as setting a declining fleet average NOx emission standard that would require manufacturers to add zero-emission vehicles to their fleets. They also note the availability of tire efficiency standards. Petitioners do not, however, address the potential for reducing motor vehicle emissions of the other three GHGs.

Finally, petitioners maintain that the Administrator has a mandatory duty to regulate motor vehicle GHG emissions under CAA section 202(a)(1). They contend that EPA has “already made formal findings” that motor vehicle GHG emissions “pose[] actual or potential harmful effects [on] the public health and welfare.” Noting that section 202(a)(1) provides the Administrator “shall” prescribe motor vehicle standards, petitioners argue that the use of “shall” creates a

mandatory duty to promulgate standards when the requisite findings are made. They accordingly claim that the Administrator must establish motor vehicle standards for the four GHGs.

Petitioners further argue that “the precautionary purpose of the CAA supports” regulating these gases even if the Agency believes there is some scientific uncertainty regarding the actual impacts of global climate change. Petitioners cite several court cases recognizing the Administrator’s authority to err on the side of caution in making decisions in areas of scientific uncertainty. They also assert that scientific uncertainty does not excuse a mandatory duty to regulate.

III. Request for Comment

On January 23, 2001, EPA requested public comment on the petition (see 66 FR 7486). The public comment period ended May 23, 2001.

EPA requested comment on all the issues raised in ICTA’s petition. In particular, EPA requested comment on any scientific, technical, legal, economic or other aspect of these issues that may be relevant to EPA’s consideration of the petition.

IV. Summary of Public Comments

EPA received almost 50,000 comments on the petition. Most comments were relatively brief expressions of support for the petition sent by electronic mail; many were virtually identical. EPA also heard from a number of business and environmental groups. Most of the comments focused exclusively on CO₂. This section describes the significant points and arguments made in the public comments.

Several commenters addressed the issue of whether the four GHGs –CO₂, CH₄, N₂O and HFCs – are “air pollutants” under the CAA and thus potentially subject to regulation under the Act. Some of the commenters agreed with the petitioners that GHGs are air pollutants under the CAA. Like the petitioners, they noted that the definition of “air pollutant” in CAA section 302(g) is very broad and that the CAA itself refers to CO₂ as an “air pollutant” (see CAA section 103(g)). These commenters also cited to and agreed with the Cannon Memorandum and statements by Gary Guzy, EPA’s General Counsel following Mr. Cannon, that CO₂ falls within the CAA definition of air pollutant.

Other commenters argued that EPA has never formally determined that any GHGs are air pollutants and that the Cannon Memorandum is not such a finding. Some commenters also argued that CO₂ is not an air pollutant because it is a naturally-occurring substance in Earth’s atmosphere and is critical to sustaining life. Other commenters pointed out that EPA already regulates as air pollutants substances that have natural as well as anthropogenic sources where human activities have increased the quantities present in the air to levels harmful to public health, welfare or the environment (e.g., sulfur dioxide, volatile organic compounds, particulate matter).

Another issue of concern to commenters was whether EPA has authority to regulate motor vehicle emissions of GHGs even if they meet the CAA definition of “air pollutant.” Commenters supportive of the petition noted the broad authority conferred by section 202(a)(1) to regulate motor vehicle emissions that cause or contribute to air pollution that may reasonably be anticipated to endanger public health and welfare. These commenters also noted that CAA section 302(h) defines “welfare” to include effects on weather and climate, as well as other aspects of the environment that may be affected by global climate change (e.g., soils, water, crops, vegetation, animals, visibility).

Other commenters argued that the CAA does not authorize regulations to address global climate change, including motor vehicle GHG emission standards. They noted that no CAA provision specifically authorizes global climate change regulations, a Senate committee’s proposal for mandatory CO₂ standards for motor vehicles did not survive Senate consideration, and other contemporaneous legislative proposals for mandatory GHG emission reductions failed to pass. They also pointed out that the only CAA provision that specifically mentions CO₂ authorizes only “nonregulatory” measures and expressly precludes its use as authority for imposing mandatory controls. They cited another CAA provision that calls on EPA to determine the “global warming potential” of certain pollutants but expressly precludes regulation on that basis as further indication that Congress did not intend EPA to regulate GHGs under the CAA.

Looking at the CAA more broadly, several commenters argued that the key statutory mechanism for controlling pervasive “air pollutants” – establishing and implementing national ambient air quality standards under sections 108, 109 and 110 – is unworkable for addressing an issue whose causes and effects are global in nature. Several commenters also pointed out that Congress addressed another global atmospheric issue, depletion of stratospheric ozone by man-made substances, explicitly and in discrete portions of the Act, specifically part B of title 1 prior to the CAA Amendments of 1990 and title VI following the 1990 amendments. Moreover, both incarnations of CAA stratospheric ozone authority included recognition of the international nature of the problem and provisions to facilitate and augment international cooperation in achieving a solution. These commenters argued that if Congress had intended EPA to address global climate change under the CAA, it would have made that clear by including analogous provisions.

Placing the CAA in a larger context, the commenters noted several other federal statutes that specifically address global climate change and authorize only research and policy development, not regulation. Commenters also pointed out that Congress has expressed dissatisfaction with the Kyoto Protocol, negotiated under the auspices of the United Nations Framework Convention on Climate Change and requiring parties to the Protocol to reduce their GHG emissions by a specific amount. They further cited congressional actions taken since the 1990 CAA amendments to prevent EPA from implementing the Kyoto Protocol (the so-called Knollenberg amendments to the FY 1999 and 2000 VA-HUD and Independent Agency Appropriations Acts). Finally, they noted that Congress had rejected numerous legislative proposals mandating GHG reductions (see, e.g., S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)). According to the commenters, these actions clearly signal that Congress awaits

further scientific information and other technological and international developments before authorizing any regulation to address global climate change.

Finally, several commenters pointed to the Supreme Court's decision in *Food and Drug Administration v. Brown & Williamson Tobacco Corp.*, 120 S.Ct. 1291 (2000), finding that the FDA lacks authority to regulate tobacco products despite a facially broad grant of authority. These commenters warned that a reviewing court would closely scrutinize and likely strike down an EPA assertion of CAA authority to regulate for global climate change purposes when Congress specifically addressed the issue of global climate change, not in the CAA, but in other federal statutes that do not authorize regulation.

On the other hand, several commenters pointed to, and agreed with, a letter from then EPA General Counsel Guzy to a congressional committee explaining that explicit mention of a pollutant is not a necessary prerequisite to regulation under a statutory provision granting broad authority to regulate pollutants, provided that the statutory criteria for regulation are met. These commenters also echoed Mr. Guzy's view that a congressional decision not to require standards does not affect pre-existing discretionary authority to set standards where the applicable criteria are met.

Many commenters considered the issue of whether anthropogenic GHG emissions contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. Several commenters pointed out, as petitioners did, that EPA's climate website and other national and international reports describe hazards to human health and welfare that may result from global climate change. Other commenters claimed that there is no basis at this time for EPA to conclude that GHG emissions from U.S. motor vehicles endanger public health or welfare. Some commenters questioned whether global warming was occurring or whether humans' impact on any global warming was significant. These commenters also suggested that global warming, if real, would have beneficial impacts (e.g., helping prevent another ice age, increasing agricultural production) that could outweigh any adverse effects. Several commenters argued that since the causes and effects of global climate change occur on a worldwide basis, regulation of only U.S. motor vehicles would be neither effective nor fair.

Commenters also addressed whether it is technologically feasible to reduce GHG emissions from new motor vehicles. Some commenters described categories of technologies that can substantially reduce CO₂ emissions from gasoline-powered passenger cars and light trucks, including vehicle load reduction, engine improvements, improved transmissions, integrated starter generators, and hybrid-electric drive trains. Vehicle load reduction strategies include reduced vehicle mass, reduced aerodynamic drag, reduced tire rolling resistance, and reduced accessory loads. Engine improvement strategies include improved specific power and gasoline direct injection. Improved transmission strategies include 5- and 6-speed automatic transmissions, 5-speed motorized manual gearshifts, and continuously variable transmissions. Other commenters asserted that EPA may not regulate motor vehicle GHG emissions by setting fuel economy standards inasmuch as Congress entrusted fuel economy standard-setting to the Department of

Transportation (DOT) under the Energy Policy and Conservation Act (EPCA).

Finally, commenters considered whether EPA has a mandatory duty to regulate motor vehicle GHG emissions. Some commenters agreed with petitioners that the Cannon Memorandum and EPA's website statements triggered an obligation under CAA section 202(a)(1) to set CO₂ standards. Other commenters countered that the Cannon Memorandum and EPA website statements are not formal EPA findings for the purposes of exercising statutory authority. They asserted that for findings to provide a sufficient legal basis for regulating under section 202(a)(1), they must be established through a public notice-and-comment process.

V. EPA Response

After careful consideration of petitioners' arguments and the public comments, EPA concludes that it cannot and should not regulate GHG emissions from U.S. motor vehicles under the CAA. Based on a thorough review of the CAA, its legislative history, other congressional action and Supreme Court precedent, EPA believes that the CAA does not authorize regulation² to address global climate change. Moreover, even if CO₂ were an air pollutant generally subject to regulation under the CAA, Congress has not authorized the Agency to regulate CO₂ emissions from motor vehicles to the extent such standards would effectively regulate car and light truck fuel economy, which is governed by a comprehensive statute administered by DOT.

In any event, EPA believes that setting GHG emission standards for motor vehicles is not appropriate at this time. President Bush has established a comprehensive global climate change policy designed to (1) answer questions about the causes, extent, timing and effects of global climate change that are critical to the formulation of an effective, efficient long-term policy, (2) encourage the development of advanced technologies that will enable dramatic reductions in GHG emissions, if needed, in the future, and (3) take sensible steps in the interim to reduce the risk of global climate change. The international nature of global climate change also has implications for foreign policy, which the President directs. In view of EPA's lack of CAA regulatory authority to address global climate change, DOT's authority to regulate fuel economy, the President's policy, and the potential foreign policy implications, EPA declines the petitioners' request to regulate GHG emissions from motor vehicles.

A. EPA's Legal Authority under the CAA

As summarized above, many commenters on the petition raised important legal issues regarding EPA's authority to issue global climate change regulations under the CAA. Two EPA General Counsels previously addressed the issue of EPA's authority to impose CO₂ emission control requirements. Both found that CO₂ meets the CAA definition of "air pollutant" and could

²"Regulation" as used in this section of the notice refers to legally binding requirements promulgated by an agency under statutory authority. It does not include voluntary measures that emission sources may or may not undertake at their discretion.

therefore be subject to regulation under one or more of the CAA's regulatory provisions if the applicable statutory criteria for regulation were met. Both also noted, however, that the Agency had not made the requisite findings under any CAA provision for regulation of CO₂ emissions. Significantly, the past general counsels reached their conclusions prior to the Supreme Court's decision in *Brown & Williamson*, which cautions agencies against using broadly worded statutory authority to regulate in areas raising unusually significant economic and political issues when Congress has specifically addressed those areas in other statutes.

Because the petition seeks CAA regulation of GHG emissions from motor vehicles to reduce the risk of global climate change, EPA has examined the fundamental issue of whether the CAA authorizes the imposition of control requirements for that purpose. As part of that examination, EPA's General Counsel, Robert E. Fabricant, reviewed his predecessors' memorandum and statements, as well as the public comments raising legal authority issues. The General Counsel considered the text and history of the CAA in the context of other congressional actions specifically addressing global climate change and in light of the Supreme Court's admonition in *Brown & Williamson* to "be guided to a degree by common sense as to the manner in which Congress is likely to delegate a policy decision of such . . . magnitude to an administrative agency." In a memorandum to the Acting Administrator dated August 29, 2003, the General Counsel concluded that the CAA does not authorize EPA to regulate for global climate change purposes, and accordingly that CO₂ and other GHGs cannot be considered "air pollutants" subject to the CAA's regulatory provisions for any contribution they may make to global climate change. Accordingly, he withdrew the Cannon memorandum and statements by Mr. Guzy as no longer expressing the views of EPA's General Counsel. The General Counsel's opinion is adopted as the position of the Agency for purposes of deciding this petition and for all other relevant purposes under the CAA.

As summarized above, commenters supporting the petition claim that section 202 of the CAA provides EPA with broad authority to set standards for motor vehicle emissions of CO₂ and other GHGs to the extent those emissions cause or contribute to global climate change. At the same time, other commenters correctly note that (1) no CAA provision specifically authorizes global climate change regulation, (2) the only CAA provision specifically mentioning CO₂ authorizes only "nonregulatory" measures, (3) the codified CAA provisions related to global climate change expressly preclude the use of those provisions to authorize regulation, (4) a Senate committee proposal to include motor vehicle CO₂ standards in the 1990 CAA amendments failed, (5) federal statutes expressly addressing global climate change do not authorize regulation, and (6) numerous congressional actions suggest that Congress has yet to decide that such regulation is warranted. These indicia of congressional intent raise the issue of whether the CAA is properly interpreted to authorize regulation to address global climate change.

Congress was well aware of the global climate change issue when it last comprehensively amended the CAA in 1990. During the 1980s, scientific discussions about the possibility of global climate change led to public concern both in the U.S. and abroad. In response, the U.S. and other nations developed the United Nations Framework Convention on Climate Change (UNFCCC).

President George H. W. Bush signed, and the U.S. Senate approved, the UNFCCC in 1992, and the UNFCCC took effect in 1994.

The UNFCCC established the “ultimate objective” of “stabiliz[ing] greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” (Article 2 of the UNFCCC). All parties to the UNFCCC agreed on the need for further research to determine the level at which GHG concentrations should be stabilized, acknowledging that “there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof”(findings section of UNFCCC).

Shortly before the UNFCCC was adopted in May 1992, Congress developed the 1990 CAA amendments. A central issue for the UNFCCC – whether binding emission limitations should be set – was also considered in the context of the CAA amendments. As several commenters noted, a Senate committee included in its bill to amend the CAA a provision requiring EPA to set CO₂ emission standards for motor vehicles. However, that provision was removed from the bill on which the full Senate voted, and the bill eventually enacted was silent with regard to motor vehicle CO₂ emission standards. During this same time period, other legislative proposals were made to control GHG emissions, some in the context of national energy policy, but none were passed (see, e.g., S. 324, 101st Cong. (1989); S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)).

In the CAA Amendments of 1990 as enacted, Congress called on EPA to develop information concerning global climate change and “nonregulatory” strategies for reducing CO₂ emissions. Specifically, uncodified section 821 of the CAA Amendments requires measurement of CO₂ emissions from utilities subject to permitting under title V of the CAA. New section 602 of the CAA directs EPA to determine the “global warming potential” of substances that deplete stratospheric ozone. And new section 103(g) calls on EPA to develop “nonregulatory” measures for the prevention of multiple air pollutants and lists several air pollutants and CO₂ for that purpose.

Notably, none of these provisions authorizes the imposition of mandatory requirements, and two of them expressly preclude their use for regulatory purposes (sections 103(g) and 602). Only the research and development provision of the CAA – section 103 – specifically mentions CO₂, and the legislative history of that section indicates that Congress was focused on seeking a sound scientific basis on which to make future decisions on global climate change, not regulation under the CAA as it was being amended. Representatives Roe and Smith, two of the principal authors of section 103 as amended, explained that EPA’s “science mandate” needed updating to deal with new, more complex issues, including “global warming” (A Legislative History of the Clean Air Act Amendments of 1990, 103 Cong., 1st Sess., S. Prt. 103-38, Vol. 2, pp. 2776 and 2778). They expressed concern that EPA’s research budget had been too heavily focused on supporting existing regulatory actions when the Agency also needed to conduct long-term research to “enhance EPA’s ability to predict the need for future action” (id. at 2777).

In providing EPA with expanded research and development authority, however, Congress did not provide commensurate regulatory authority. In section 103(g), Congress directed EPA to establish a “basic engineering research and technology program to develop, evaluate and demonstrate” strategies and technologies for air pollution prevention and specifically called for improvements in such measures for preventing CO₂ as well as several specified air pollutants. But it expressly provided that nothing in the subsection “shall be construed to authorize the imposition on any person of air pollution control requirements.” As if to drive home the point, section 103(g) was revised in conference to include the term “nonregulatory” to describe the “strategies and technologies” the subsection was intended to promote. In its treatment of the global climate change issue in the CAA amendments, Congress made clear that it awaited further information before making decisions on the need for regulation.

Beyond Congress’ specific CAA references to CO₂ and global warming, another aspect of the Act cautions against construing its provisions to authorize regulation of emissions that may contribute to global climate change. The CAA provisions addressing stratospheric ozone depletion demonstrate that Congress has understood the need for specially tailored solutions to global atmospheric issues, and has expressly granted regulatory authority when it has concluded that controls may be needed as part of those solutions. Like global climate change, the causes and effects of stratospheric ozone depletion are global in nature. Anthropogenic substances that deplete stratospheric ozone are emitted around the world and are very long-lived; their depleting effects and the consequences of those effects occur on a global scale. In the CAA prior to its amendment in 1990, Congress specifically addressed the problem in a separate portion of the statute (part B of title I) that recognized the global nature of the problem and called for negotiation of international agreements to ensure world-wide participation in research and any control of stratospheric ozone-depleting substances. In the 1990 CAA amendments, Congress again addressed the issue in a discrete portion of the statute (title VI) that similarly provides for coordination with the international community. Moreover, both incarnations of the CAA’s stratospheric ozone provisions contain express authorization for EPA to regulate as scientific information warrants. In light of this CAA treatment of stratospheric ozone depletion, it would be anomalous to conclude that Congress intended EPA to address global climate change under the CAA’s general regulatory provisions, with no provision recognizing the international dimension of the issue and any solution, and no express authorization to regulate.

EPA’s prior use of the CAA’s general regulatory provisions provides an important context. Since the inception of the Act, EPA has used these provisions to address air pollution problems that occur primarily at ground level or near the surface of the earth. For example, national ambient air quality standards (NAAQS) established under CAA section 109 address concentrations of substances in the ambient air and the related public health and welfare problems. This has meant setting NAAQS for concentrations of ozone, carbon monoxide, particulate matter and other substances in the air near the surface of the earth, not higher in the atmosphere. Concentrations of these substances generally vary from place to place as a result of differences in local or regional emissions and other factors (e.g., topography), although long range transport may also contribute to local concentrations in some cases. CO₂, by contrast, is fairly consistent in concentration throughout the *world’s* atmosphere up to approximately the lower stratosphere.

Problems associated with atmospheric concentrations of CO₂ are much more like the kind of global problem Congress addressed through adoption of the specific provisions of Title VI.

In assessing the availability of CAA authority to address global climate change, it is also useful to consider whether the NAAQS system – a key CAA regulatory mechanism – could be used to effectively address the issue. Unique and basic aspects of the presence of key GHGs in the atmosphere make the NAAQS system fundamentally ill-suited to addressing these gases in relation to global climate change. Many GHGs reside in the earth's atmosphere for very long periods of time. CO₂, by far the most pervasive of anthropogenic GHGs, has a residence time of roughly 50-200 years. This long lifetime along with atmospheric dynamics means that CO₂ is well mixed throughout the atmosphere, up to approximately the lower stratosphere. The result is a vast global atmospheric pool of CO₂ that is fairly consistent in concentration, everywhere along the surface of the earth and vertically throughout this area of mixing.

While atmospheric concentrations of CO₂ are fairly consistent globally, the potential for either adverse or beneficial effects in the U.S. from these concentrations depends on complicated interactions of many variables on the land, in the oceans, and in the atmosphere, occurring around the world and over long periods of time. Characterization and assessment of such effects and the relation of such effects to atmospheric concentration of CO₂ in the U.S. would present scientific issues of unprecedented complexity in the NAAQS context. The long-lived nature of the CO₂ global pool would also make it extremely difficult to evaluate the extent over time to which effects in the U.S. would be related to anthropogenic emissions in the U.S. Finally, the nature of the global pool would mean that any CO₂ standard that might be established would in effect be a worldwide ambient air quality standard, not a national standard – the entire world would be either in compliance or out of compliance.

Such a situation would be inconsistent with a basic underlying premise of the CAA regime for implementation of a NAAQS – that actions taken by individual states and by EPA can generally bring all areas of the U.S. into attainment of a NAAQS. The statutory NAAQS implementation regime is fundamentally inadequate when it comes to a substance like CO₂, which is emitted globally and has relatively homogenous concentrations around the world. A NAAQS for CO₂, unlike any pollutant for which a NAAQS has been established, could not be attained by any area of the U.S. until such a standard were attained by the entire world as a result of emission controls implemented in countries around the world. The limited flexibility provided in the Act to address the impacts of foreign pollution transported to the U.S. was not designed to address the challenges presented by long-lived global atmospheric pools such as exists for CO₂. The globally-pervasive nature of CO₂ emissions and atmospheric concentrations presents a unique problem that fundamentally differs from the kind of environmental problem that the NAAQS system was intended to address and is capable of solving.

Other congressional actions confirm that Congress did not authorize regulation under the CAA to address global climate change. Starting in 1978, Congress passed several pieces of legislation specifically addressing global climate change. With the National Climate Program Act of 1978, 15 U.S.C. 2901 et seq., Congress established a “national climate program” to improve

understanding of “climate processes, natural and man induced, and the social, economic, and political implications of global climate change” through research, data collection, assessments, information dissemination, and international cooperation. In the Global Climate Protection Act of 1987, 22 U.S.C. 2651 note, Congress directed the Secretary of State to coordinate U.S. negotiations concerning global climate change, and EPA to develop and propose to Congress a coordinated national policy on the issue. Three years later, Congress passed the Global Change Research Act of 1990, 15 U.S.C. 2931 et seq., establishing a Committee on Earth and Environmental Sciences to coordinate a 10-year research program. That statute was enacted one day after the CAA Amendments of 1990 was signed into law. Also in 1990, Congress passed Title XXIV of the Food and Agriculture Act, creating a Global Climate Change Program to research global climate agricultural issues (section 2401 of Pub.L. No.101-624).

With these statutes, Congress sought to develop a foundation for considering whether future legislative action on global climate change was warranted and, if so, what that action should be. From federal agencies, it sought recommendations for national policy and further advances in scientific understanding and possible technological responses. It did not authorize any federal agency to take any regulatory action in response to those recommendations and advances. In fact, Congress declined to adopt other legislative proposals, contemporaneous with the bills to amend the CAA in 1989 and 1990, to require GHG emissions reductions from stationary and mobile sources (see, e.g., S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)). While Congress did not expressly preclude agencies from taking regulatory action under other statutes, its actions strongly indicate that when Congress was amending the CAA in 1990, it was awaiting further information before deciding *itself* whether regulation to address global climate change is warranted and, if so, what form it should take.

Since 1990, Congress has taken other actions consistent with the view that Congress did not authorize CAA regulation for global climate change purposes. In the 1992 Energy Policy Act, Congress called on the Secretary of Energy to assess various GHG control options and report back to Congress, and to establish a registry for reporting *voluntary* GHG emissions. Following ratification of the UNFCCC, nations party to the Convention negotiated the Kyoto Protocol calling for mandatory reductions in developed nations’ GHG emissions. While the Kyoto Protocol was being negotiated, the Senate in 1997 adopted by a 95-0 vote the Byrd-Hagel Resolution, which stated that the U.S. should not be a signatory to any protocol that would result in serious harm to the economy of the U.S. or that would mandate new commitments to limit or reduce U.S. GHG emissions unless the Protocol also mandated new, specific, scheduled commitments to limit or reduce GHG emissions for developing countries within the same compliance period. Although the Clinton Administration signed the Kyoto Protocol, it did not submit it to the Senate for ratification out of concern that the Senate would reject the treaty. Congress also attached language to appropriations bills that barred EPA from implementing the Kyoto Protocol without Senate ratification (see, e.g., Knollenberg amendments to the FY 1999 and 2000 VA-HUD and Independent Agencies Appropriations Acts). Since enactment of the 1990 CAA amendments, numerous bills to control GHG emissions from mobile and stationary sources have failed to win passage (see, e.g., H.R. 2993, 102d Cong., 1st Sess. 137 *Cong. Rec.* H4611 (daily ed. 1991)).

Against this backdrop of consistent congressional action to learn more about the global climate change issue before specifically authorizing regulation to address it, the CAA cannot be interpreted to authorize such regulation in the absence of any direct or even indirect indication of congressional intent to provide such authority. EPA is urged on in this view by the Supreme Court's decision in *Brown & Williamson*, which struck down FDA's assertion of authority to regulate tobacco products under the Food, Drug and Cosmetic Act (FDCA). That statute contains a broadly worded grant of authority for FDA to regulate "drugs" and "devices," terms which the statute also broadly defines. However, the FDCA does not specifically address tobacco products while other federal laws expressly govern the marketing of those products.

Notwithstanding the FDCA's facially broad grant of authority, the Supreme Court explained that "[i]n extraordinary cases, . . . there may be reason to hesitate before concluding that Congress has intended such an implicit delegation." The Court noted that FDA was "assert[ing] jurisdiction to regulate an industry constituting a significant portion of the American economy," despite the fact that "tobacco has its own unique political history" that had led Congress to create a distinct regulatory scheme for tobacco products. The Court concluded that FDA's assertion of authority to regulate tobacco was "hardly an ordinary case." The Court analyzed FDA's authority in light of the language, structure and history of the FDCA and other federal legislation and congressional action specifically addressing tobacco regulation, including failed legislative attempts to confer authority of the type FDA was asserting. Based on that analysis, it determined that Congress did not "intend[] to delegate a decision of such economic and political significance . . . in so cryptic a fashion."

It is hard to imagine any issue in the environmental area having greater "economic and political significance" than regulation of activities that might lead to global climate change. Virtually every sector of the U.S. economy is either directly or indirectly a source of GHG emissions, and the countries of the world are involved in scientific, technical, and political-level discussions about climate change. We believe, in fact, that an effort to impose controls on U.S. GHG emissions would have far greater economic and political implications than FDA's attempt to regulate tobacco.

The most abundant anthropogenic GHG, CO₂, is emitted whenever fossil fuels such as coal, oil, and natural gas are used to produce energy. The production and use of fossil fuel-based energy undergirds almost every aspect of the U.S. economy. For example, approximately 70 percent of the electric energy used in this country is generated from fossil fuel, and the U.S. transportation sector is almost entirely dependent on oil.

Proposals to reduce CO₂ emissions from these sectors have focused on four major approaches: (1) improve fuel efficiency; (2) capture and sequester CO₂; (3) switch to alternative non-fossil fuel sources; and (4) reduce vehicle usage by switching to alternative forms of transportation. Congress has already addressed the first approach in other statutes – not the CAA – by giving other Departments and agencies – not EPA – regulatory authority to deal with fuel and energy efficiency. For example, Congress has authorized DOT to set fuel economy standards for motor vehicles and the Department of Energy to set efficiency standards for products such as air conditioners and appliances that consume electricity.

The other approaches for reducing CO₂ emissions all have substantial economic implications. While it may eventually be possible to achieve widespread capture and sequester CO₂ emissions from power plants, such an approach would require a new generation of power plants and would be very costly, even if implemented over many years. As for the use of alternative fuels, governments and private companies around the world are investing billions of dollars to explore the possibility of using non-fossil fuels for power generation and transportation. Any widespread effort to switch away from fossil fuels in either sector would likewise require a wholesale transformation of our methods for producing power and transporting goods and people. As for alternative modes of transportation, Congress and many states have already adopted measures to encourage public transportation, car pooling, bike usage, and land-use planning designed to minimize commuting distances. EPA supports these measures and believes that they provide many environmental benefits. However, widespread substitution of alternative forms of transportation for transportation based on fossil fuel energy would also require a wholesale remaking of this sector. It is hard to overstate the economic significance of making these kinds of fundamental and widespread changes in basic methods of producing and using energy.

The issue of global climate change also has enormous political significance. It has been discussed extensively during the last three Presidential campaigns; it is the subject of debate and negotiation in several international bodies; and numerous bills have been introduced in Congress over the last 15 years to address the issue.

In light of Congress' attention to the issue of global climate change, and the absence of any direct or even indirect indication that Congress intended to authorize regulation under the CAA to address global climate change, it is unreasonable to conclude that the CAA provides the Agency with such authority. An administrative agency properly awaits congressional direction before addressing a fundamental policy issue such as global climate change, instead of searching for authority in an existing statute that was not designed or enacted to deal with the issue. We thus conclude that the CAA does not authorize regulation to address concerns about global climate change.

It follows from this conclusion, that GHGs, as such, are not air pollutants under the CAA's regulatory provisions, including sections 108, 109, 111, 112 and 202. CAA authorization to regulate is generally based on a finding that an air pollutant causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare. CAA section 302(g) defines "air pollutant" as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant[.]" The root of the definition indicates that for a substance to be an "air pollutant," it must be an "agent" of "air pollution." Because EPA lacks CAA regulatory authority to address global climate change, the term "air pollution" as used in the regulatory provisions cannot be interpreted to encompass global climate change. Thus, CO₂ and other GHGs are not "agents" of air pollution and do not satisfy the CAA section 302(g) definition of "air pollutant" for purposes of those provisions. We reserve judgment on whether GHGs would meet the CAA definition of

“air pollutant” for regulatory purposes were they subject to regulation under the CAA for global climate change purposes.³

B. Interference with Fuel Economy Standards

Even if GHGs were air pollutants generally subject to regulation under the CAA, Congress has not authorized the Agency to regulate CO₂ emissions from motor vehicles to the extent such standards would effectively regulate the fuel economy of passenger cars and light duty trucks. No technology currently exists or is under development that can capture and destroy or reduce emissions of CO₂, unlike other emissions from motor vehicle tailpipes. At present, the only practical way to reduce tailpipe emissions of CO₂ is to improve fuel economy. Congress has already created a detailed set of mandatory standards governing the fuel economy of cars and light duty trucks, and has authorized DOT – not EPA – to implement those standards. The only way for EPA to proceed with CO₂ emissions standards without upsetting this statutory scheme would be to set a standard less stringent than CAFE for cars and light duty trucks. But such an approach would be meaningless in terms of reducing GHG emissions from the U.S. motor vehicle fleet.⁴

Congress’ care in designing the CAFE program makes clear that EPCA is the only statutory vehicle for regulating the fuel economy of cars and light duty trucks. Under EPCA, DOT may set only “corporate average” standards that automakers meet on a fleetwide basis. Automakers thus have flexibility to design different vehicle models having different fuel economy so long as the average of the vehicles sold by the automaker in a given model year and class meets the CAFE standard for that year. In fact, EPCA offers automakers additional flexibility by allowing them to meet the CAFE standard for a given model year by “carrying back” or “carrying forward” the excess fuel economy performance of their fleets for the three years before or after the applicable model year.

EPCA also builds in an opportunity for congressional oversight of CAFE standard-setting that reinforces the notion that Congress intended fuel economy to be governed by EPCA alone.

³As General Counsel Fabricant notes in his memorandum, a substance does not meet the CAA definition of “air pollutant” simply because it is a “physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air.” It must also be an “air pollution agent.”

⁴Although the ICTA petition focuses on passenger cars and light duty trucks, it seeks regulation of GHG emissions generally from motor vehicles and engines, which include heavy duty engines and trucks. Passenger cars and light duty trucks are subject to CAFE standards; heavy duty trucks are not. The contribution of heavy duty trucks to the U.S. motor vehicle GHG inventory is relatively small, about 16 percent. EPA believes it would be ineffective, inefficient and unreasonable to set CO₂ emission standards for these vehicles in the absence of a more comprehensive program for seeking CO₂ and other GHG reductions from the many types of sources of these emissions.

The statute specifies a CAFE standard of 27.5 miles per gallon for passenger cars in model years 1984 and beyond (49 U.S.C. section 32902(b)), but authorizes DOT to amend the standard to the “maximum feasible average fuel economy level” for the relevant model year. However, to the extent DOT raises or lowers the standards beyond specified levels, EPCA provides an automatic opportunity for Congress to disapprove and effectively void the amended standard (49 U.S.C. section 32902(c)). Given that the only practical way of reducing tailpipe CO₂ emissions is by improving fuel economy, any EPA effort to set CO₂ tailpipe standards under the CAA would either abrogate EPCA’s regime (if the standards were effectively more stringent than the applicable CAFE standard) or be meaningless (if they were effectively less stringent).

C. No Mandatory Duty

As explained above, in light of the language, history, structure and context of the CAA and Congress’ decision to give DOT authority to regulate fuel economy under EPCA, it is clear that EPA does not have authority to regulate motor vehicle emissions of CO₂ and other GHGs under the CAA. In any event, the CAA provision authorizing regulation of motor vehicle emissions does not impose a mandatory duty on the Administrator to exercise her judgment. Instead, section 202(a)(1) provides the Administrator with discretionary authority to address emissions in addition to those addressed by other section 202 provisions (see, e.g., sections 202(a)(3) and (b)). While section 202(a)(1) uses the word “shall,” it does not require the Administrator to act by a specified deadline and it conditions authority to act on a discretionary exercise of the Administrator’s judgment regarding whether motor vehicle emissions cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare.

The website statements, legal memorandum and other documents cited by petitioners and commenters in support of the petition are not sufficient to satisfy the criteria for setting standards under section 202(a)(1). Exercise of section 202(a)(1) authority turns on the judgment made by the *Administrator*, and CAA section 301 does not permit the Administrator to delegate her standard-setting authority under section 202(a)(1). None of the statements petitioners claim constitute the requisite endangerment finding for GHGs under section 202(a)(1) were made, or subsequently adopted, by the Administrator. As the Cannon memorandum stated in 1998, no Administrator had made a finding under any of the CAA’s regulatory provisions that CO₂ meets the applicable statutory criteria for regulation. (Notably, the website statements on which the petitioners partly rely were in existence at the time Mr. Cannon issued his memorandum.) That statement remains true today – no Administrator has made any finding that satisfies the criteria for setting CO₂ standards for motor vehicles or any other emission source. In any event, for such findings to suffice for standard-setting purposes, they must be established through a notice-and-comment process.

EPA also disagrees with the premise of the petitioners’ claim – that if the Administrator were to find that GHGs, in general, may reasonably be anticipated to endanger public health or welfare, she must necessarily regulate GHG emissions from motor vehicles. Depending on the particular problem, motor vehicles may contribute more or less or not at all. An important issue before the Administrator is whether, given motor vehicles’ relative contribution to a problem, it

makes sense to regulate them. In the case of some types of air pollution, motor vehicles may be one of many contributors, and it may make sense to control other contributors instead of, or in tandem with, motor vehicles. The discretionary nature of the Administrator's section 202(a)(1) authority allows her to consider these important policy issues and decide to regulate motor vehicle emissions as appropriate to the air pollution problem being addressed. Accordingly, even were the Administrator to make a formal finding regarding the potential health and welfare effects of GHGs in general, section 202(a)(1) would not require her to regulate GHG emissions from motor vehicles.

D. Different Policy Approach

Beyond issues of authority and interference with fuel economy standards, EPA disagrees with the regulatory approach urged by petitioners. We agree with the President that "we must address the issue of global climate change" (Feb. 14, 2002). We do not believe, however, that it would be either effective or appropriate for EPA to establish GHG standards for motor vehicles at this time. As described in detail below, the President has laid out a comprehensive approach to climate change that calls for near-term voluntary actions and incentives along with programs aimed at reducing scientific uncertainties and encouraging technological development so that the government may effectively and efficiently address the climate change issue over the long term.

Petitioners cited numerous studies and other sources of information in contending that anthropogenic emissions of CO₂, CH₄, N₂O, and HFCs are accelerating global climate change and that emission of these compounds from motor vehicles contribute to the problem. Numerous commenters agreed with petitioners and a few cited additional information or studies as further support. See "Summary of Climate Petition Comments on Science" in the docket for this action. Other commenters disagreed with petitioners' contentions, citing different data and studies or in some cases interpreting the same data and studies differently or emphasizing different aspects of the information provided. *Id.* We reviewed the information submitted by petitioners and commenters and concluded that all of the information was widely available and in the public domain at the time we solicited comments on the petition. The information submitted does not add significantly to the body of information available to the National Research Council (NRC) when it prepared its 2001 report, *Climate Change Science: An Analysis of Some Key Questions*. We rely in this decision on NRC's objective and independent assessment of the relevant science. The comments submitted to the record do not include information that causes us to question the validity of the NRC's conclusions.

As the NRC noted in its report, concentrations of GHGs are increasing in the atmosphere as a result of human activities (pp. 9-12). It also noted that "[a] diverse array of evidence points to a warming of global surface air temperatures" (p. 16). The report goes on to state, however, that "[b]ecause of the large and still uncertain level of natural variability inherent in the climate record and the uncertainties in the time histories of the various forcing agents (and particularly aerosols), a casual linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established. The fact that the magnitude of the observed warming is large in comparison to natural variability as

simulated in climate models is suggestive of such a linkage, but it does not constitute proof of one because the model simulations could be deficient in natural variability on the decadal to century time scale” (p. 17).

The NRC also observed that “there is considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of [GHGs] and aerosols” (p. 1). As a result of that uncertainty, the NRC cautioned that “current estimate of the magnitude of future warming should be regarded as tentative and subject to future adjustments (either upward or downward).” Id. It further advised that “[r]educing the wide range of uncertainty inherent in current model predictions of global climate change will require major advances in understanding and modeling of both 1) the factors that determine atmospheric concentrations of [GHGs] and aerosols and 2) the so-called ‘feedbacks’ that determine the sensitivity of the climate system to a prescribed increase in [GHGs].” Id.

The science of climate change is extraordinarily complex and still evolving. Although there have been substantial advances in climate change science, there continue to be important uncertainties in our understanding of the factors that may affect future climate change and how it should be addressed. As the NRC explained, predicting future climate change necessarily involves a complex web of economic and physical factors including: our ability to predict future global anthropogenic emissions of GHGs and aerosols; the fate of these emissions once they enter the atmosphere (e.g., what percentage are absorbed by vegetation or are taken up by the oceans); the impact of those emissions that remain in the atmosphere on the radiative properties of the atmosphere; changes in critically important climate feedbacks (e.g., changes in cloud cover and ocean circulation); changes in temperature characteristics (e.g., average temperatures, shifts in daytime and evening temperatures); changes in other climatic parameters (e.g., shifts in precipitation, storms); and ultimately the impact of such changes on human health and welfare (e.g., increases or decreases in agricultural productivity, human health impacts). The NRC noted, in particular, that “[t]he understanding of the relationships between weather/climate and human health is in its infancy and therefore the health consequences of climate change are poorly understood” (p. 20). Substantial scientific uncertainties limit our ability to assess each of these factors and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic GHGs.

Reducing the wide range of uncertainty inherent in current model predictions will require major advances in understanding and modeling of the factors that determine atmospheric concentrations of greenhouse gases and aerosols, and the processes that determine the sensitivity of the climate system. Specifically, this will involve reducing uncertainty regarding:

- the future global use of fossil fuels and future global emissions of methane,
- the fraction of fossil fuel carbon that will remain in the atmosphere and contribute to radiative forcing versus exchange with the oceans or with the land biosphere,
- the impacts (either positive or negative) of climate change on regional and local

systems,

- the nature and causes of the natural variability of climate and its interactions with human-induced changes, and
- the direct and indirect effects of the changing distribution of aerosols.

Knowledge of the climate system and of projections about the future climate is derived from fundamental physics, chemistry and observations. Data are then incorporated in global circulation models. However, model projections are limited by the paucity of data available to evaluate the ability of coupled models to simulate important aspects of climate. The U.S. and other countries are attempting to overcome these limitations by developing a more comprehensive long-term observation system, by making more extensive regional measurements of greenhouse gases, and by increasing the computing power required to handle these expanded data sets.

A central component of the President's policy is to reduce key uncertainties that exist in our understanding of global climate change. Important efforts are underway to address these uncertainties. In particular, the federal government has expanded scientific research efforts through its Climate Change Research Initiative (CCRI). President Bush announced this new initiative in June 2001 and called for it "to study areas of uncertainty and identify priority areas where investments can make a difference." The CCRI recently issued its final "Strategic Plan for the Climate Change Research Program" to ensure that scientific efforts are focused where they are most critical and that the key scientific uncertainties identified are addressed in a timely and effective manner for decision makers.

The President has also stated, however, that "while scientific uncertainties remain, we can begin now to address the factors that contribute to climate change" (June 11, 2001). Thus, along with stepped-up efforts to reduce scientific uncertainties, the President's policy calls for public-private partnerships to develop break-through technologies that could dramatically reduce the economy's reliance on fossil fuels without slowing its growth. Large-scale shifts away from traditional energy sources, however, will require not only the development of abundant, cost-effective alternative fuels, but potentially wholesale changes in the way industrial processes and consumer products use fuel. Such momentous shifts do not take place quickly. As the President has explained, "[a]ddressing global climate change will require a sustained effort, over many generations" (www.whitehouse.gov/news/releases/2002/02/climatechange.html).

By contrast, establishing GHG emission standards for U.S. motor vehicles at this time would require EPA to make scientific and technical judgments without the benefit of the studies being developed to reduce uncertainties and advance technologies. It would also result in an inefficient, piecemeal approach to addressing the climate change issue. The U.S. motor vehicle fleet is one of many sources of GHG emissions both here and abroad, and different GHG emission sources face different technological and financial challenges in reducing emissions. A sensible regulatory scheme would require that all significant sources and sinks of GHG emissions be considered in deciding how best to achieve any needed emission reductions.

Unilateral EPA regulation of motor vehicle GHG emissions could also weaken U.S. efforts to persuade key developing countries to reduce the GHG intensity of their economies. Considering the large populations and growing economies of some developing countries, increases in their GHG emissions could quickly overwhelm the effects of GHG reduction measures in developed countries. Any potential benefit of EPA regulation could be lost to the extent other nations decided to let their emissions significantly increase in view of U.S. emission reductions.⁵ Unavoidably, climate change raises important foreign policy issues, and it is the President's prerogative to address them.

In light of the considerations discussed above, EPA would decline the petitioners' request to regulate motor vehicle GHG emissions even if it had authority to promulgate such regulations. Until more is understood about the causes, extent and significance of climate change and the potential options for addressing it, EPA believes it is inappropriate to regulate GHG emissions from motor vehicles.

In any event, the President's policy includes efforts to reduce motor vehicle petroleum consumption through increases in motor vehicle fuel economy. As noted previously, petitioners specifically suggested that EPA set a "corporate average fuel economy-based standard," but only DOT is authorized to set motor vehicle fuel economy standards. DOT considered increasing fuel economy standards and recently promulgated a final rule increasing the CAFE standards for light trucks, including sports utility vehicles, by 1.5 miles per gallon over a three-year period beginning with model year 2005. The new standards are projected to result in savings of approximately 3.6 billion gallons of gasoline over the lifetime of the affected vehicles, with the corresponding avoidance of 31 million metric tons of carbon dioxide emissions. For the longer term, the President has established a new public-private partnership with the nation's automobile manufacturers to promote the development of hydrogen as a primary fuel for cars and trucks, with the goal of building a commercially viable zero-emissions hydrogen-powered vehicle. In the near-term, the President has sought \$3 billion in tax credits over 11 years for consumers to purchase fuel cell and hybrid vehicles.

Aside from fuel economy-based standards, petitioners only other suggestions for reducing CO₂ from motor vehicles are tire efficiency standards and a declining fleet-averaged NOx standard to force the introduction of zero-emitting vehicles. In the case of tire efficiency standards, it is questionable whether such standards would qualify as "standards applicable to the *emission*" of an air pollutant from a motor vehicle under section 202(a)(1), since such standards would

⁵The U.S. faced a similar dilemma in its efforts to address stratospheric ozone depletion. Early U.S. controls on substances that deplete stratospheric ozone were not matched by many other countries. Over time, U.S. emission reductions were more than offset by emission increases in other countries. The U.S. did not impose additional domestic controls on stratospheric ozone-depleting substances until key developed and developing nations had committed to controlling their own emissions under the Montreal Protocol on Substances that Deplete Stratospheric Ozone.

presumably apply to the vehicle's tires, not its CO₂ emissions (emphasis added). As for zero emission vehicles, further technological developments are needed before they could be a practical choice for most consumers.

With respect to the other GHGs – CH₄, N₂O, and HFCs – petitioners make no suggestion as to how those emissions might be reduced from motor vehicles. GHG emissions from motor vehicles primarily consist of CO₂ from fuel combustion. In 1999, N₂O represented 4 percent, HFCs 1 percent, and CH₄ less than 1 percent of transportation GHG emissions. As byproducts of combustion, there is a direct proportional relationship between CO₂ emissions and fuel economy levels. EPA believes parameters other than fuel economy are more relevant to N₂O and HFC formation. HFCs come from mobile air conditioners, while N₂O is influenced by catalytic converter design. CH₄ is a byproduct of combustion, like CO₂, but can also be affected by catalytic converter design. As noted above, N₂O, HFCs, and CH₄ represent a very small percentage of total U.S. transportation GHG emissions. As such, they would not be an effective or efficient target for regulation in the absence of regulation of CO₂ emissions.

VI. Administration Global Climate Change Policy

Lack of CAA authority to impose GHG control requirements does not leave the federal government powerless to take sensible measured steps to address the global climate change issue. As described in this notice, the President has laid out a comprehensive approach to global climate change that calls for near-term voluntary actions and incentives along with programs aimed at reducing scientific uncertainties and encouraging technological development so that the government may effectively and efficiently address the global climate change issue over the long term. The CAA and other federal statutes provide the federal government with ample authority to conduct the research necessary to better understand the nature, extent and effects of any human-induced global climate change and to develop technologies that will help achieve GHG emission reductions to the extent they prove necessary. The CAA and other statutes also authorize, and EPA and other agencies have established, nonregulatory programs that provide effective and appropriate means of addressing global climate change while scientific uncertainties are addressed.

As part of that effort, the President in February 2002 called for voluntary reductions in GHG intensity, including through fuel economy improvements. GHG intensity is the ratio of GHG emissions to economic output. The President's goal is to lower the U.S. rate of emissions from an estimated 183 metric tons per million dollars of gross domestic product (GDP) in 2002 to 151 metric tons per million dollars of GDP in 2012. Meeting this commitment will prevent GHG emissions of over 500 million metric tons of carbon equivalent (MMTCE) from entering the atmosphere cumulatively over the next ten years, and is equivalent to taking 70 million (or one out of three) cars off the road.

The "Climate VISION" (Voluntary Innovative Sector Initiatives: Opportunities Now) program, a Presidential initiative launched by the Department of Energy (DOE) in February 2003,

is a voluntary public-private partnership designed to pursue cost-effective strategies to reduce the growth of GHG emissions, especially by energy-intensive industries. Working with trade associations and other groups, the program assists industry in its efforts to accelerate the transition to energy technologies and manufacturing processes that are cleaner, more efficient, and capable of capturing or sequestering GHGs. Climate VISION links these objectives with technology development and deployment activities primarily at DOE, but also at other participating agencies. Since Climate VISION was launched, 14 industry groups have become program partners with DOE.

EPA is also pursuing a number of nonregulatory approaches to reducing GHG emissions. In February 2002, EPA launched EPA's Climate Leaders program, a new voluntary partnership program between government and industry. Through Climate Leaders, companies will work with EPA to evaluate their GHG emissions, set aggressive reduction goals, and report their progress toward meeting those goals. To date, more than 40 companies from almost all of the most energy-intensive industry sectors have joined Climate Leaders.

EPA's Energy Star program is another example of voluntary actions that have substantially reduced GHG emissions. Energy Star is a voluntary labeling program that provides critical information to businesses and consumers about the energy efficiency of the products they purchase. Over the past decade more than 750 million Energy Star products have been purchased across more than 30 product categories (e.g., computers, microwaves, washing machines). Reductions in GHG emissions from Energy Star purchases were equivalent to removing 10 million cars from the road last year. Businesses and consumers not only reduced their GHG emissions, but also saved \$5 billion last year through their use of Energy Star products.

EPA is also working to encourage voluntary GHG emission reductions from the transportation sector. The key elements of this effort are the SmartWay Transport Partnership and the Best Workplaces for Commuters program. The SmartWay Transport Partnership works with the trucking and railroad industry to develop and deploy more fuel-efficient technologies and practices to achieve substantial fuel savings and emission reductions. The goal of Best Workplaces for Commuters is to offer innovative solutions to commuting challenges faced by U.S. employers and employees by promoting outstanding commuter benefits that reduce vehicle trips and miles traveled. EPA estimates that these voluntary programs have the potential to reduce GHG emissions by 9 MMTCE annually by 2010.

EPA has voluntary programs aimed specifically at reducing methane emissions from a variety of sources. For example, the Agency has partnerships with natural gas companies to reduce emissions from leaky pipelines and distribution equipment, solid waste landfill facilities to capture and reuse emissions from landfills, and coal mining companies to capture and reuse methane escaping from mines. Together, these programs are projected to reduce methane emissions to below 1990 levels through 2010.

In addition, EPA has extensive partnerships with industries responsible for emissions of the most potent industrial GHG (e.g., sulfur hexafluoride, per fluorocarbons and HFCs). Through

partnerships with EPA, the aluminum sector has exceeded their goal of reducing PFC emissions by 45% from 1990 levels by 2000 and is now in discussions about a new, more aggressive goal. The semiconductor manufacturing sector has agreed to reduce their emissions by 10% below 1995 levels by 2010. This year, a new agreement was reached with the magnesium sector under which they have agreed to completely phase-out their SF₆ emissions by 2010.

The federal government's voluntary climate programs are already achieving significant emission reductions. In 2000 alone, reductions in GHG emissions totaled 66 MMTCE when compared to emissions in the absence of these programs.

Importantly, the President's initiative will improve our ability to accurately measure and verify GHG emissions through an enhanced national GHG registry system. The U.S. will improve the voluntary registry's accuracy, reliability, and verifiability, taking into account emerging domestic and international approaches. Organizations participating in the new registry will be provided with transferable credits for achieving voluntary emissions reductions. These credits will be available for use under any future incentive-based or mandatory programs. We believe the enhanced standards for the new registry will strengthen the current voluntary trading systems.

The President's 2003 budget also seeks \$4.5 billion for global climate change-related programs, a \$700 million increase over 2002. This includes \$1.7 billion for science research under the Climate Change Research Initiative, and \$1.3 billion for climate change technologies under the National Climate Change Technology initiative. This commitment is unmatched in the world. The 2003 budget seeks \$555 million in clean energy incentives to spur investments in solar, wind, and biomass energy, co-generation, and landfill gas conversion.

New and expanded international policies will complement our domestic policies, including tripled funding for the "Debt-for-Nature" Tropical Forest Conservation Program, fully funding the Global Environment Facility for its third four-year replenishment, enhanced support for climate observation systems and climate technology assistance in developing countries, and sustained level funding for USAID climate programs, including technology transfer and capacity building in developing countries.

In the transportation sector, the Administration's global climate change plan includes promoting the development of fuel-efficient motor vehicles and trucks, researching options for producing cleaner fuels, and implementing programs to improve energy efficiency. The plan calls for expanding federal research partnerships with industry, providing market-based incentives, and updating current regulatory programs that advance our progress in this area. This commitment includes expanding fuel cell research, in particular through the "FreedomCAR" initiative.

FreedomCAR is a new public-private partnership with the nation's automobile manufacturers. It seeks to promote the development of hydrogen as a primary fuel for cars and trucks, with the goal of building a commercially viable zero-emissions hydrogen-powered vehicle. FreedomCAR focuses on technologies to enable mass production of affordable hydrogen-powered fuel cell vehicles and the hydrogen-supply infrastructure to support them.

Developing new technologies to improve the energy efficiency of transportation in the U.S. will be a key element in achieving future reductions in GHG emissions. The President's 2003 budget seeks more than \$3 billion in tax credits over 11 years for consumers to purchase fuel cell and hybrid vehicles. The Administration's global climate change plan supports increasing automobile fuel economy and encouraging new technologies that reduce our dependence on imported oil, while protecting passenger safety and jobs.

EPA will play an important role in efforts to develop advanced motor vehicle technologies that improve fuel economy and reduce emissions. The Agency's Clean Automotive Technology (CAT) program is working to develop advanced clean and fuel-efficient automotive technology. Under the program, EPA's goal is to develop technology by the end of the decade that will satisfy stringent emissions requirements and achieve up to a doubling of fuel efficiency in personal vehicles such as SUVs, pickups, and urban delivery vehicles – while simultaneously meeting the more demanding size, performance, durability, and power requirements of these vehicles. EPA will also play a leadership role in advancing fuel cell vehicle and hydrogen fuel technologies and influencing the direction of technological and policy progress in support of U.S. environmental, energy, and national security goals.

To address GHG emissions from the electric utility sector, DOE in February of this year announced FutureGen, a \$1 billion government/industry partnership to design, build and operate a nearly emission-free, coal-fired electric and hydrogen production plant. The 275-megawatt prototype plant will serve as a large scale engineering laboratory for testing new clean power, carbon capture, and coal-to-hydrogen technologies. It will be the cleanest fossil fuel-fired power plant in the world. The project is a direct response to the President's Climate Change and Hydrogen Fuels Initiatives.

In all, the President's global climate change policy sets the U.S. on a path to slow the growth of GHG emissions and, as the science justifies, to stop and then reverse that growth. This policy supports vital global climate change research and lays the groundwork for future action by investing in science, technology, and institutions. In addition, the President's policy emphasizes international cooperation and promotes working with other nations to develop an efficient and coordinated response to global climate change. In taking prudent environmental action at home and abroad, the U.S. is advancing a realistic and effective long-term approach to the global climate change issue.

VII. Conclusion

For the reasons discussed above, and after considering the ICTA petition, public comment, EPA's legal authority, and other relevant information, EPA hereby denies the ICTA petition requesting that EPA regulate certain GHG emissions from new motor vehicles and engines under CAA section 202(a)(1).

Dated: August 28, 2003

/signed/

Jeffrey R. Holmstead

Assistant Administrator for Air and Radiation